CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN DIEGO REGION

TENTATIVE
MONITORING AND REPORTING PROGRAM NO. R9-2003-0140
NPDES PERMIT NO. CA 0109193

WASTE DISCHARGE REQUIREMENTS
FOR
IDEC PHARMACEUTICALS CORPORATION
NEW IDEC MANUFACTURING OPERATIONS (NIMO)
SAN DIEGO COUNTY

PURPOSE

This monitoring program is intended to:

- Determine compliance with NPDES permit terms and conditions.
- Determine compliance with water quality objectives and document short-term and longterm effects of the discharge on biota.

A. MONITORING PROVISIONS

1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring points specified in Order No. R9-2003-0140 or in this monitoring and reporting program and, unless otherwise specified. Other waste streams, body of water or substance shall not dilute the monitored discharge. Monitoring points shall not be changed without notification to, and the approval of, this Regional Board.

2. Monitoring must be conducted according to United States Environmental Protection Agency (U.S. EPA) test procedures approved under Title 40, United States Code of Federal Regulations (CFR), Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* as amended, unless other test procedures are specified in *Order No. R9-2003-0140* and/or this Monitoring and Reporting Program and/or this Regional Board.

3. Duplicate copies of the monitoring reports signed, and certified as required by *Reporting Requirement E.8* of *Order No. R9-2003-0140,* must be submitted to the USEPA and the Regional Board at the addresses listed in *Reporting Requirement E.10* of *Order No. R9-2003-0140*.

4. If the discharger monitors any pollutants more frequently than required by *Order No. R9-2003-0140*, or by this Monitoring and Reporting Program, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the discharger's monitoring report. The increased frequency of monitoring shall also be reported.

5. The discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by *Order No. R9-2003-0140* and this Monitoring and Reporting Program, and records of all data used to complete the application for *Order No. R9-2003-0140*. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended by request of this Regional Board or by the USEPA at any time.

6. Records of monitoring information shall include:

   a. The date, exact location, and time of sampling or measurements;
   b. The name(s) of individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed;
   d. The laboratory and individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

7. Calculations for all limitations that require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in *Order No. R9-2003-0140* or this Monitoring and Reporting Program.

8. All analyses shall be performed in a laboratory that is certified by the California Department of Health Services to perform such analyses or a laboratory approved by this Regional Board.

9. The discharger shall report in a cover letter all instances of noncompliance not reported under *Reporting Requirement E.5* of *Order No. R9-2003-0140* at the time monitoring reports are submitted. The reports shall contain the information listed in *Reporting Requirement E.5*.

10. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

11. Monitoring results shall be reported at intervals and in a manner specified in *Order No. R9-2003-0140* or in this Monitoring and Reporting Program.

12. This Monitoring and Reporting Program may be modified by this Regional Board, as appropriate.

B. EFFLUENT MONITORING

1. Sampling/Monitoring Location

The non-biologics wastewater streams from the NIMO facility including the brine discharges (softener regeneration brine, and multi-media filter, carbon filter, and softener, backwash/rinse waters), the cooling tower/boiler/compression stills blowdowns, and the clean steam generator test flows shall be routed to a common monitoring and sampling manhole at the facility. The sampling manhole shall be located upstream of the City of Oceanside's new 14" brine line (see Attachment No. 1 for location and approximate coordinates of sampling location). Twenty four hour composite samples shall be collected at the sampling manhole to represent the combined effluent from the individual wastewater streams.

2. Effluent monitoring shall be conducted as specified below in Table 1:

TABLE 1: Sample Analysis Parameters of Effluent

Parameter	Unit	Sample Type	Minimum Frequency
Flow	gallons per day	Recorder/totalizer	Continuous*
Oil & Grease	mg/l lb/day**	24-hour composite	Semiannual
Settleable Solids	ml/l	24-hour composite[1]	Semiannual
Turbidity	NTU	24-hour composite[1]	Semiannual
pH	pH Units	24-hour composite[1]	Semiannual
Temperature	^{o}F	Measurement	Semiannual
Total Suspended Solids	mg/l lb/day**	24-hour composite[1]	Semiannual
Arsenic	µg/l	24-hour composite[1]	Semiannual
Total Chromium	µg/l	24-hour composite[1]	Semiannual
Copper	µg/l	24-hour composite[1]	Semiannual
Nickel	µg/l	24-hour composite[1]	Semiannual
Zinc	µg/l	24-hour composite[1]	Semiannual
Acute Toxicity[2]	TUa	24-hour composite[1]	Semiannual
Chronic Toxicity[3]	TUc	24-hour composite[1]	Semiannual

*Combined effluent flow shall be determined continuously for a 24-hour period, on a semiannual basis.

**Mass emission rate (lb/day) of oil & grease and total suspended solids shall be based on the maximum flow rate over a 24-hour period.

C. CHEMICAL UTILIZATION AUDIT REPORT

The discharger shall submit a chemical utilization audit report to summarize the names and amounts of individual chemicals (including antifouling agents, biocides, and additives) used in the multi-media filters, carbon filters, softener units, cooling towers, boilers, clean steam generators, and vapor compression stills. The report shall be signed by an authorized person as required *in Reporting Requirement E.8* of *Order No. R9-2003-0140* and shall be submitted to the Regional Board on a semiannual basis. Material safety data sheets of the chemicals used shall be provided on an annual basis, in conjunction with the July – December semiannual chemical utilization audit report.

D. RECEIVING WATER MONITORING

To determine compliance with water quality standards, the receiving water quality monitoring program must document conditions in the vicinity of the "Zone of Initial Dilution" (ZID) boundary, at reference stations, and at areas beyond the ZID where discharge impacts might reasonably be expected. Monitoring must reflect conditions during all critical environmental periods.

Receiving water and sediment monitoring in the vicinity of the Oceanside Ocean Outfall (OOO) shall be conducted as specified below. Station location, sampling, sample preservation and analyses, when not specified, shall be by methods approved by the Regional Board. The monitoring program may be modified by the Regional Board at any time.

The receiving water and sediment monitoring program for the OOO may be conducted jointly by IDEC Pharmaceuticals Corporation with the City of Oceanside, and any other agencies/dischargers utilizing the OOO. Only those receiving water, sediment, and biological parameters and locations that are impacted by or attributable to the discharge from the NIMO facility, are included in Monitoring and Reporting Program No. R9-2003-0140.

Receiving water and sediment monitoring stations shall be located and numbered as follows:

Monitoring Station Locations

Station	Description
	Offshore Stations
A1 - A4	At the corners of a 1,000 ft. x 1,000 ft. square having one side parallel to shore and the intersection of its diagonals at the seaward end of the outfall.
A5	At the intersection of the diagonals of the above rectangle.
B1	One mile downcoast from the outfall, and over the same depth contour as Station A5.
B2	One mile upcoast from the outfall, and over the same depth contour as Station A5.

Biological Transects

T0	At the 20, 40, 60, and 80 foot depth contours along the transect located 50 feet downcoast of and parallel to the outfall.
T1	At the 20, 40, 60, and 80 foot depth contours along the transect located one mile downcoast of and parallel to the outfall.
T2	At the 20, 40, 60, and 80 foot depth contours along the transect located one and one half miles upcoast of and parallel to the outfall.

It is recommended that stations be located using a land-based microwave positioning system, such as Mini-Ranger or trisponder, or a satellite positioning system such as Global Positioning System (GPS). The high levels of accuracy and precision afforded by this type of positioning system will ensure that stations are properly located with respect to the ZID. If an alternate navigation system (e.g. Loran C) is proposed, its accuracy should be compared to that of the systems recommended herein, and any compromises in accuracy should be justified.

Monitoring station locations may be modified with the approval of the Regional Board.

A. OFFSHORE WATER QUALITY MONITORING

Offshore monitoring is intended to determine compliance with the Ocean Plan; and to determine if the applicant's discharge causes significant impacts on the water quality within the ZID and beyond the ZID as compared to reference areas.

All "offshore stations" shall be monitored as follows:

The intensive offshore water quality monitoring specified below is required during the 12-month period beginning July 1, 2003 through June 30, 2004, and must be submitted by August 31, 2004. The intensive offshore water quality monitoring specified below is also required if the Regional Board determines that the effluent does not at all times comply with Discharge Specifications B.1 and B.3 of Order No. R9-2003-0140.

Determination	Units	Type of Sample	Minimum Frequency
Visual Observations	--	--	Monthly
Dissolved Oxygen	mg/L	Grab	Monthly
Light Transmittance	%	Instrument	Monthly
pH	pH units	Grab	Annually

B. BENTHIC MONITORING

Benthic monitoring is intended to assess the status of the benthic community, and to evaluate the physical and chemical quality of the sediments.

The intensive monitoring specified below is required during the 12-month period beginning July 1, 2003 through June 30, 2004, and must be submitted by August 31, 2004. The intensive offshore water quality monitoring specified below is also required if the Regional Board determines that the effluent does not at all times comply with Discharge Specifications B.1 and B.3 of Order No. R9-2003-0140. Sediment monitoring shall be conducted at all "offshore stations".

1. Sediment Characteristics

Analyses shall be performed on the upper two inches of core.

Determination	Units	Type of Sample	Minimum Frequency
Particle Size Distribution	--------	Core	Semiannually
Arsenic	mg/kg	Core	Annually
Total Chromium	mg/kg	Core	Annually
Copper	mg/kg	Core	Annually
Nickel	mg/kg	Core	Annually
Zinc	mg/kg	Core	Annually

2. Infauna

Samples are to be collected with a Paterson, Smith-McIntyre, or orange-peel-type dredge, having an open sampling area of not less than 124 square inches and a sediment capacity of not less than 210 cubic inches. The sediment shall be sifted through a one-millimeter mesh screen and all organisms shall be identified to as low a taxon as possible.

Determination	Units	Minimum Frequency
Benthic Biota	Identification and Enumeration	3 Grabs Semiannually

C. ADDITIONAL BIOLOGICAL MONITORING

1. Demersal Fish and Macroinvertebrates

Monitoring of demersal fish and macroinvertebrates is intended to assess the populations of such organisms, to assess bioaccumulation of toxic pollutants, and to determine whether a significant difference exists between those populations near the outfall diffuser and those in reference areas.

The intensive monitoring specified below is required during the 12-month period beginning July 1, 2003 through June 30, 2004, and must be submitted by August 31, 2004. The intensive offshore water quality monitoring specified below is also required if the Regional Board determines that the effluent does not at all times comply with Discharge Specifications B.1 and B.3 of Order No. R9-2003-0140.

Determination	Units	Type of Sample	Minimum Frequency
Biological Transects	Identification/ Enumeration	-----[4]	Annually

In rocky or cobble areas, a 30-meter band transect, one meter wide shall be established on the ocean bottom. Operations at each underwater station shall include: (1) Water temperature (may be measured from a boat), estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom recorded; (2) general bottom description recorded; (3) enumeration by estimate of the larger plants and animals in the band transect area recorded; (4) representative photographic record of sampled area taken; and (5) within each band, three one-quarter meter square areas shall be randomly selected and all macroscopic plant and animal life shall be identified to as low a taxon as possible and measured.

For both epifauna and infauna, size frequency and distribution shall be shown for at least the three numerically largest populations identified to the lowest possible taxon and appropriate graphs showing the relationship between species frequency and population shall be plotted from each sample.

2. Kelp Bed Monitoring

Kelp bed monitoring is intended to assess the extent to which the discharge of wastes may affect the areal extent and health of coastal kelp beds.

The discharger shall participate with other ocean dischargers in the San Diego Region in an annual regional kelp bed photographic survey. Kelp beds shall be monitored annually by means of vertical aerial infrared photography to determine the maximum areal extent of the region's coastal kelp beds within the calendar year. Surveys shall be conducted as close as possible to the time when kelp bed canopies cover the greatest area. The entire San Diego Region coastline, from the international boundary to the San Diego Region / Santa Ana Region boundary,

shall be photographed on the same day.

The images produced by the surveys shall be presented in the form of a 1:24,000 scale photo-mosaic of the entire San Diego Region coastline. Onshore reference points, locations of all ocean outfalls and diffusers, and the 30-foot (MLLW) and 60-foot (MLLW) depth contours shall be shown.

The areal extent of the various kelp beds photographed in each survey shall be compared to that noted in surveys of previous years. Any significant losses which persist for more than one year shall be investigated by divers to determine the probable reason for the loss.

E. MONITORING REPORT SCHEDULE

Effluent Monitoring reports and chemical utilization audit reports shall be submitted to the Regional Board according to the dates in the following schedule:

Monitoring Frequency	Reporting Period	Report Due
Semiannually	January – June	August 1
	July – December	February 1

F. ENDNOTE REFERENCES

1. A composite sample is defined as a combination of 24 aliquots of at least 100 milliliters each, collected hourly over a 24-hour period. Each individual aliquot must consist of 4 samples taken at 15 minute intervals. The composite must be flow proportional; either the time interval between each aliquot or the volume of each aliquot must be proportional to either the stream flow at the time of sampling or the total stream flow since the collection of the previous aliquot. Aliquots may be collected manually or automatically.

2. The discharger shall conduct acute whole effluent toxicity (WET) tests on 24-hour composite effluent samples, at least once every semi-annual monitoring period.

   a. Test Species and Methods

   Compliance with the acute toxicity limitations shall be determined using the USEPA approved protocols and marine test species as provided in 40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act* and the USEPA acute toxicity test methods manual (*Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms (EPA/600/5-90-027F, 1993)).*

b. Quality Assurance

Concurrent testing with reference toxicants shall be conducted

If either of the reference toxicant tests or the effluent tests do not meet all the test acceptability criteria as specified in the USEPA acute toxicity test methods manual, then the discharger must re-sample and re-test as soon as possible.

Control and dilution water should be receiving water or lab water, as appropriate. If the dilution water is different from the culture water, then culture water should be used in a second control.

3. The discharger shall conduct chronic whole effluent toxicity (WET) tests on 24-hour composite effluent samples, at least once every semi-annual monitoring period.

a. Test Species and Methods

Pursuant to Appendix III of the Ocean Plan, the discharger shall conduct chronic toxicity tests with the following vertebrate, invertebrate, and algal marine species, during the first semiannual monitoring period after adoption of Order No. R9-2003-0140:

(1)	Vertebrate:	Topsmelt, *Atherinops affinis* (survival and growth)
(2)	Invertebrate:	Red abalone, *Haliotis rufescens* (larval development test)
(3)	Alga:	Giant Kelp, *Macrocystis pyrifera* (germination and germ-tube length test)

Chronic toxicity test conducted in subsequent semiannual monitoring periods may be reduced to one species (i.e. the most sensitive of the above vertebrate, invertebrate, and algal species).

The presence of chronic toxicity shall be estimated as specified in the USEPA chronic toxicity test methods manual (*Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95-136, 1995)*).

b. Quality Assurance

A series of five dilutions and a control will be tested. The series shall include the instream waste concentrations (IWC), two dilutions above the IWC, and two dilutions below IWC (e.g. 12.5, 25, 50, 75, and 100 percent, where IWC = 50). The IWC for this discharge is 1.23 percent effluent (based on a permitted TUc value of 81, se*e Discharge Specification B.1,* and *Endnote G.5,* of *Order No. R9-2003-0140*).

Concurrent testing with reference toxicants shall be conducted

If either of the reference toxicant tests or the effluent tests do not meet all the test acceptability criteria as specified in the USEPA chronic toxicity test methods manual, then the discharger must re-sample and re-test as soon as possible.

Control and dilution water should be receiving water or lab water, as appropriate. If the dilution water is different from the culture water, then culture water should be used in a second control.

4. Sampling techniques will follow those employed by biologist divers of the California State Department of Fish and Game. In sandy areas, a 30 meter band transect, one meter wide, shall be established on the ocean bottom. Operations at each underwater station shall include: (1) Water temperature (may be measured from a boat), estimated visibility and pelagic macrobiota at each 10-foot depth increment throughout the water column and at the bottom recorded; (2) general bottom description recorded; (3) height, period, and crest direction of ripple marks recorded; (4) amount, description, and location of detritus on bottom recorded; (5) representative photographic record of sampled area taken; and (6) within each band, three cores of at least 42.5 cm^2 in area shall be randomly taken to a depth of 15 cm where possible, (the three cores may be taken from a boat) and the material removed sifted through at least a 1 millimeter mesh screen, and all organisms identified to as low a taxon as possible, enumerated, measured, and reproductive conditions assessed where feasible.

Ordered by TENTATIVE
JOHN H. ROBERTUS
Executive Officer
August 13, 2003